

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An information display apparatus comprising:
a liquid crystal display comprising a liquid crystal material, a plurality of scan electrodes and a plurality of data electrodes, said liquid crystal material exhibiting, at room temperature, a cholesteric phase in which said liquid crystal material has a bistability between a focal-conic state and a planar state in which said liquid crystal material exhibits a selective reflection characteristic, said scan electrodes and said data electrodes defining a plurality of liquid crystal pixels;
a driver comprising a scan electrode driver and a data electrode driver, said scan electrode driver including a shift register and a plurality of output terminals respectively connected to said scan electrodes, said data electrode driver including a shift register and a plurality of output terminals respectively connected to said data electrodes to drive said liquid crystal display; and
a controller which is connected to said driver, said controller being capable of controlling said driver to repeatedly select only part of the scan electrodes by controlling the shift register of the scan electrode driver to perform writing on only part of the pixels of the liquid crystal display corresponding to the selected scan ~~electrodes~~ electrodes,
wherein said driver performs repetitious writing on said part of the pixels of the liquid crystal display corresponding to the selected scan electrodes by applying voltage pulses including a reset pulse to reset the liquid crystal to a homeotropic state and a selection pulse to select a desire display state of the liquid crystal, the voltage pulses including the reset pulse and the selection pulse being applied to each of the selected scan electrodes sequentially for repetitious writing.

2. Cancelled).

3. Cancelled).

4. (Previously Presented) An information display apparatus according to claim 1, wherein said controller controls said driver based on motion picture data.

5. (Previously Presented) An information display apparatus according to claim 1, wherein said controller sends data regarding a writing start line and a writing end line to said driver.

6. (Withdrawn) An information display apparatus comprising:
a display having a first display area and a second display area each of which comprises a plurality of scan electrodes and a plurality of data electrodes, wherein:
said first display area and the second display area are driven by a first driving method and a second driving method, respectively;
said first driving method and said second driving method are different from each other in that a waveform applied to a selected one of said scan electrodes of the first display area is different from a waveform applied to a selected one of said scan electrodes of the second display area; and
said first display area is a simple matrix display and said second display area is an active matrix display.

7. (Cancelled)

8. (Withdrawn) An information display apparatus comprising:
a display having a first display area and a second display area each of which comprises a plurality of scan electrodes and a plurality of data electrodes, wherein:
said first display area and the second display area are driven by a first driving method and a second driving method, respectively; and
said first driving method and said second driving method are different from each other in that a waveform applied to a selected one of said scan electrodes of the first

display area is different from a waveform applied to a selected one of said scan electrodes of the second display area,

wherein said first display area is capable of displaying an image with a first contrast, and said second display area is capable of displaying an image with a second contrast.

9. (Withdrawn) An information display apparatus comprising:

a display having a first display area and a second display area each of which comprises a plurality of scan electrodes and a plurality of data electrodes, wherein:

said first display area and the second display area are driven by a first driving method and a second driving method, respectively; and

said first driving method and said second driving method are different from each other in that a waveform applied to a selected one of said scan electrodes of the first display area is different from a waveform applied to a selected one of said scan electrodes of the second display area,

wherein said first display area is capable of displaying an image with three or more tones, and said second display area is capable of displaying an image with two tones.

10. (Withdrawn) An information display apparatus comprising:

a display having a first display area and a second display area each of which comprises a plurality of scan electrodes and a plurality of data electrodes, wherein:

said first display area and the second display area are driven by a first driving method and a second driving method, respectively; and

said first driving method and said second driving method are different from each other in that a waveform applied to a selected one of said scan electrodes of the first display area is different from a waveform applied to a selected one of said scan electrodes of the second display area,

wherein said first display area and said second display area display images with mutually different dot sizes, respectively.

11. (Withdrawn) An information display apparatus comprising:
a first display which displays an image by using a first displaying method; and
a second display which displays an image by using a second displaying method,
said second display being a reflective type liquid crystal display and being capable of
keeping the image thereon without consuming electric power;
wherein the first display is of a structurally different type from said second display.

12. (Withdrawn) An information display apparatus comprising:
a first display which displays an image by using a first displaying method; and
a second display which displays an image by using a second displaying method,
said second display being a reflective type liquid crystal display and being capable of
keeping the image thereon without consuming electric power;
wherein the first display is of a different type from said second display,
wherein a display area of said second display is larger than that of said first
display.

13. (Withdrawn) An information display apparatus comprising:
a first display which displays an image by using a first displaying method; and
a second display which displays an image by using a second displaying method,
said second display being a reflective type liquid crystal display and being capable of
keeping the image thereon without consuming electric power;
wherein the first display includes liquid crystal of a different type from said second
display; and
wherein said second display has a liquid crystal material which exhibits a
cholesteric phase at a room temperature.

14. (Withdrawn) An information display apparatus comprising:
a first display which displays an image by using a first displaying method; and
a second display which displays an image by using a second displaying method,
said second display being a reflective type liquid crystal display and being capable of
keeping the image thereon without consuming electric power;
wherein the first display is of a different type from said second display; and
wherein said first display and said second display overlap each other.

15. (Withdrawn) An information display apparatus comprising:
a first display which displays an image by using a first displaying method; and
a second display which displays an image by using a second displaying method,
said second display being a reflective type liquid crystal display and being capable of
keeping the image thereon without consuming electric power;
wherein the first display is of a different type from said second display;
wherein said first display is detachable from said information display apparatus;
and
wherein said first display and said second display overlap each other.

16. (Withdrawn) An information display apparatus comprising:
a display section comprising a first display and a second display stacked on said
first display;
a driver section connected to said first display and said second display; and
a control section for controlling said driver section to repeatedly update only a part
of said display section, wherein the update of the part is executed so that the first display
and the second display are simultaneously driven by the driver section.

17. (Withdrawn) An information display apparatus according to claim 16,
wherein said first display and said second display are respectively for displaying a first
color and a second color that is different from the first color.

18. (Withdrawn) An information display apparatus according to claim 14, wherein when said first display is to be used to display, a portion of said second display where said first display and said second display overlap is set to a transparent state.

19. (Previously Presented) An information display apparatus according to claim 1, wherein said driver is capable of selecting a plurality of parts of scan electrodes repeatedly to perform repetitious writing on a plurality of parts of the liquid crystal display corresponding to the selected scan electrodes.

20. (Previously Presented) An information display apparatus according to claim 1, wherein the part of the liquid crystal display selected for repetitious writing thereon is smaller than a non-selected part of the liquid crystal display.

21. (Previously Presented) An information display apparatus according to claim 1, wherein while repetitious writing on the selected part of the liquid crystal display is performed, a non-selected part of the liquid crystal display keeps displaying information thereon by using a memory effect of the liquid crystal material.

22. (Previously Presented) An information display apparatus according to claim 1, wherein writing on an entirety of the liquid crystal display is performed at specified intervals.

23. (Previously Presented) An information display apparatus according to claim 1, wherein the part of the liquid crystal display selected for repetitious writing thereon includes a number of scan electrodes, the number being less than a limit within which a display made thereon can be seen as a motion picture.

24. (Currently Amended) An information display apparatus according to claim 1, wherein the liquid crystal material is a mixture of nematic liquid crystal with a chiral agent of an amount sufficient to permit the liquid crystal material to exhibit a cholesteric phase.

25. (Cancelled)

26. (Previously Presented) An information display apparatus according to claim 1, wherein the liquid crystal display makes a full color display.

27. (Previously Presented) An information display apparatus according to claim 1, wherein the liquid crystal display makes a monochromatic display.

28. (Previously Presented) An information display apparatus according to claim 1, wherein:

the liquid crystal display comprises a plurality of liquid crystal layers stacked one upon another; and

the liquid crystal display displays a motion picture thereon by driving two or more of the liquid crystal layers concurrently.

29. (Previously Presented) An information display apparatus according to claim 1, wherein the part of the liquid crystal display to be selected for repetitious writing thereon is variable with respect to position and size.

30. (New) An information display apparatus comprising:

a liquid crystal display comprising a liquid crystal material, a plurality of scan electrodes and a plurality of data electrodes, said liquid crystal material exhibiting, at room temperature, a cholesteric phase in which said liquid crystal material has a bistability between a focal-conic state and a planar state in which said liquid crystal material exhibits a selective reflection characteristic, said scan electrodes and said data electrodes defining a plurality of liquid crystal pixels;

a driver comprising a scan electrode driver and a data electrode driver, said scan electrodes driver including a shift register and a plurality of output terminals respectively connected to said scan electrodes, said data electrode driver including a shift register and a plurality of output terminals respectively connected to said data electrodes to drive said liquid crystal display; and

a controller which is connected to said driver, said controller being capable of controlling said driver to repeatedly select only part of the scan electrodes by controlling the shift register of the scan electrode driver to perform writing on only part of the pixels of the liquid crystal display corresponding to the selected scan electrodes;

wherein:

writing is performed repeatedly on the part of the pixels of the liquid crystal display corresponding to the selected scan electrodes; and

the part of the pixels of the liquid crystal display which does not correspond to the selected scan electrodes and which maintains a display by use of a memory effect of the liquid crystal includes pixels making displays of intermediate tones.

31. (New) An information display apparatus comprising:

a liquid crystal display comprising a liquid crystal material, a plurality of scan electrodes and a plurality of data electrodes, said liquid crystal material exhibiting, at room temperature, a cholesteric phase in which said liquid crystal material has a bistability between a focal-conic state and a planar state in which said liquid crystal material exhibits a selective reflection characteristic, said scan electrodes and said data electrodes defining a plurality of liquid crystal pixels;

a driver comprising a scan electrode driver and a data electrode driver, said scan electrodes driver including a shift register and a plurality of output terminals respectively connected to said scan electrodes, said data electrode driver including a shift register and a plurality of output terminals respectively connected to said data electrodes to drive said liquid crystal display; and

a controller which is connected to said driver, said controller being capable of controlling said driver to repeatedly select only part of the scan electrodes by controlling the shift register of the scan electrode driver to perform writing on only part of the pixels of the liquid crystal display corresponding to the selected scan electrodes;

wherein:

said driver performs repetitious writing on said part of the pixels of the liquid crystal display corresponding to the selected scan electrodes by applying voltage

pulses including a reset pulse to reset the liquid crystal to a homeotropic state and a selection pulse to select a desired display state of the liquid crystal, the voltage pulses including the reset pulse and the selection pulse being applied to each of the selected scan electrodes sequentially for repetitious writing; and

the part of the pixels of the liquid crystal display which does not correspond to the selected scan electrodes and which maintains a display by use of a memory effect of the liquid crystal includes pixels making displays of intermediate tones.